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BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

Application Number: 10/616,683
Filing Date: July 10, 2003
Appellant(s): BAILEY ET AL.

Bret J. Petersen
For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed April 10, 2006 appealing from the Office action mailed November 10, 2005.

(1) Real Party in Interest

A statement identifying by name the real party in interest is contained in the brief.

(2) Related Appeals and Interferences

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

(3) Status of Claims

The statement of the status of claims contained in the brief is correct.

(4) Status of Amendments After Final

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

(5) Summary of Claimed Subject Matter

The summary of claimed subject matter contained in the brief is correct.

(6) Grounds of Rejection to be Reviewed on Appeal

The appellant's statement of the grounds of rejection to be reviewed on appeal is correct.

(7) Claims Appendix

The copy of the appealed claims contained in the Appendix to the brief is correct.

(8) Evidence Relied Upon

6,044,411	Berglund et al.	3-2000

(9) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

Claims 1-16, and 19-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Applicant's Admitted Prior Art (herein after AAPA) in view of Mizukami (US 20020120708A1).

AAPA teaches a bus numbering system comprising a first apparatus with a non-volatile memory (Fig. 1-5, items 122, 132, 142, or 152; page 5, ll. 3-18). Each non-volatile memory contains the serial number and type of the bus manager (Fig. 1-5, "CEC" 110; page 5, line 20 – page 6, line 2) in order to validate the contents of each apparatus's non-volatile memory (page 8, ll. 8-18) along with bus numbering information (Fig. 1, "First Bus Num" and "Num Buses"; page 5, ll. 3-19). AAPA teaches a recovery procedure for the failure of an apparatus (page 9, line 1 - page 10, line 11). The outcome of the recovery procedure provides Tower C (Fig. 1-5; 140) with original buses 7-9 renumbered to buses 12-14. Thus an inefficient failure recovery procedure (i.e. recovery from an upgrade) is evident and there exists a need for an efficient recovery

procedure that provides Tower C with the ability to rollback to the configuration of Tower C prior to the failure event.

Mizukami teaches a system for managing information in nodes in the event of a failure. The invention of Mizukami relates to providing a copy of a node's configuration data in each of its adjacent neighbors (abstract). Mizukami goes on to teach configuration data (also known as node information) is information that is critical to the operation of a node ([0006; 0030-0033; 0065]). Broadly speaking, the configuration data represents any information that is vital to the operation of a node. Each node contains an information memory unit for storing configuration data ([0018]) and a backup node information memory for storing an adjacent node's configuration data ([0018-19]). The two information memory units are provided as a single memory device ([0025;0063]). Upon the loss of the configuration data of a node (e.g. a failure event) the data stored in the backup memory of an adjacent node is transferred to the failed node ([0023;0083;0085;0095-0099]). Therefore upon failure of a particular node the configuration data is loaded from the node's adjacent nodes providing an accurate recovery with little intervention by a manager thus reducing the processing load of a manager ([0107]).

It would have been obvious to one of ordinary skill in the art at the time of the applicant's invention to implement the adjacent neighbor configuration data backup of Mizukami into the bus numbering system of AAPA such that the possibility that configuration data (bus numbering information) is lost can be reduced even if a failure occurs in a particular device (Mizukami; [0017; 0106]). The loss of configuration data in a node device like that of AAPA or Mizukami is

severely detrimental to the system because it causes a disruption of service to the remainder of the system, thus reducing overall system performance.

For claim 1 AAPA in view of Mizukami teaches:

A first apparatus (AAPA; Fig. 1-5, items 120, 130, 140, or 150; page 5, ll. 3-18) comprising:

a non-volatile memory (AAPA; Fig. 1-5, items 122, 132, 142, or 152; page 5, ll. 3-18) that contains:

(A) bus numbering information for at least one bus located within the first apparatus (AAPA; Fig. 1, "CEC S/N", "CEC Type", "First Bus Num" and "Num Buses"; page 5, ll. 3-19); and

(B) bus numbering information for at least one bus located within a second apparatus coupled to the first apparatus (Mizukami teaches each adjacent apparatus stores configuration data critical to the operation of a particular apparatus [0006; 0018; 0030-0033; 0071]. In regards to AAPA, configuration data represents any information that Towers A-D require to operate properly. According to AAPA [page 1, ll. 21-22 and page 5, ll. 3-19] bus numbering information is critical configuration data that is normally stored in a non-volatile memory and is valuable to the operation of a physical enclosure. Therefore, since bus numbering information represents information critical to the operation of a particular apparatus, AAPA in view of Mizukami teach each and every limitation of the claimed invention.).

For claim 2 AAPA in view of Mizukami teaches:

The first apparatus of claim 1 wherein the bus numbering information comprises a beginning bus number and a number of buses (AAPA; Fig. 1, "First Bus Num" and "Num Buses"; page 5, ll. 7-8).

For claim 3 AAPA in view of Mizukami teaches:

The first apparatus of claim 1 wherein the non-volatile memory comprises at least on identifier for determining if contents of the non-volatile memory are valid (AAPA; Fig. 1, "CEC S/N" and "CEC Type"; page 9, ll. 2-5).

For claim 4 AAPA in view of Mizukami teaches:

A computer system comprising:

- a first physical enclosure (AAPA; Fig. 1-5; "Tower A" 120; page 5, ll. 3-18);
- a second physical enclosure coupled to the first physical enclosure (AAPA; Fig. 1-5; "Tower B" 130; page 5, ll. 3-18), the second physical enclosure including a non-volatile memory (AAPA; Fig. 1-5, "Tower B NVRAM"; page 5, ll. 3-18) that contains bus numbering information (AAPA; Fig. 1, "First Bus Num" and "Num Buses"; page 5, ll. 7-8) for buses contained in the first and second physical enclosures (AAPA; Fig. 1-5, items 122, 132, 142, or 152; page 5, ll. 3-18; AAPA discloses each Tower [items 120, 130, 140 and 150] contain a non-volatile RAM that stores bus numbering information about itself. AAPA does not however disclose a non-volatile RAM storing bus numbering information of a second physical enclosure. The invention of Mizukami relates to

providing a copy of a node's (physical enclosure) configuration data in each of its adjacent neighbors (abstract). Mizukami goes on to teach configuration data (also known as node information) is information that is critical to the operation of a node ([0006; 0030-0033; 0065]). Each node contains an information memory unit for storing configuration data ([0018]) and a backup node information memory for storing an adjacent node's configuration data ([0018-19]). Broadly speaking, the configuration data represents any information that is vital to the operation of a node. In regards to AAPA, configuration data represents any information that Towers A-D require to operate properly. According to AAPA [page 1, ll. 21-22 and page 5, ll. 3-19] bus numbering information is critical configuration data that is normally stored in a non-volatile memory and is valuable to the operation of a physical enclosure. Therefore, since bus numbering information represents information critical to the operation of a particular apparatus, AAPA in view of Mizukami teach each and every limitation of the claimed invention.); and

- a bus number manager (AAPA; Fig. 2, "Bus # Manager" 119; page 6, ll. 7-9) that detects a change in configuration of the computer system (AAPA; Fig. 4; page 8, line, 8 – page, 10, line 2) and that reads the bus numbering information from the non-volatile memory for the first and second physical enclosures to determine an appropriate bus number for at least one bus in the first and second physical enclosures (Mizukami teaches a recovery process involving determining if configuration data can be returned from a local non-volatile memory [0094]. Should the physical enclosure not return the requested

configuration data, the invention of Mizukami teaches retrieving a copy of the configuration data from adjacent physical enclosures [0095-0099].).

For claim 5 AAPA in view of Mizukami teaches:

The computer system of claim 4 wherein the bus numbering information comprises a beginning bus number and a number of buses (AAPA; Fig. 1, "First Bus Num" and "Num Buses"; page 5, ll. 7-8).

For claim 6 AAPA in view of Mizukami teaches:

The computer system of claim 4 wherein the non-volatile memory comprises at least on identifier that is read by the bus manager to determine if contents of the non-volatile memory are valid (AAPA; Fig. 1, "CEC S/N" and "CEC Type"; page 9, ll. 2-5).

For claim 7 AAPA in view of Mizukami teaches:

A computer system comprising:

- a first physical enclosure comprising (AAPA; Fig. 2, "CEC" 110; page 6, ll. 3-12):
    - at least one processor (AAPA; Fig. 2, "CPUs" 116; page 6, ll. 3-12);
    - a memory coupled to the at least one processor (AAPA; Fig. 2, 118; page 6, ll. 3-12);
    - a non-volatile memory coupled to the at least one processor, the non-volatile memory including a bus number mask that indicates bus numbers in use in the computer system (AAPA; Fig. 1-2, "NVRAM" 112; page 5, line 20 – page 6, line 2); and

  - a hub coupled to the at least one processor (AAPA; Fig. 2, "RIO HUB" 114; page 6, ll. 3-12);
- a second physical enclosure comprising (AAPA; Fig. 2, "TOWER A" 120; page 6, ll. 13-23):
  - at least one bridge coupled to the hub in the first physical enclosure (AAPA; Fig. 2, "PHB" 126; page 6, ll. 13-23);
  - at least one numbered bus coupled to the at least one bridge (AAPA; page 6, ll. 20-21);
  - a non-volatile memory (AAPA; Fig. 2, "NVRAM" 122; page 5, line 5; col. 6, ll. 15-16) that contains:
    - bus numbering information for numbered buses in the second physical enclosure (AAPA; Fig. 1, "First Bus Num" and "Num Buses"; page 5, ll. 7-8); and
    - bus numbering information for numbered buses in a third physical enclosure (AAPA; Fig. 1-5, items 122, 132, 142, or 152; page 5, ll. 3-18; AAPA discloses each Tower [items 120, 130, 140 and 150] contain a non-volatile RAM that stores bus numbering information about itself. AAPA does not however disclose a non-volatile RAM storing bus numbering information of a second physical enclosure. The invention of Mizukami relates to providing a copy of a node's (physical enclosure) configuration data in each of its adjacent neighbors (abstract). Mizukami goes on to teach configuration data (also known as node information) is information that is critical to the operation of a node ([0006; 0030-0033; 0065]). Each node contains an information memory

unit for storing configuration data ([0018]) and a backup node information memory for storing an adjacent node's configuration data ([0018-19]). Broadly speaking, the configuration data represents any information that is vital to the operation of a node. In regards to AAPA, configuration data represents any information that Towers A-D require to operate properly. According to AAPA [page 1, ll. 21-22 and page 5, ll. 3-19] bus numbering information is critical configuration data that is normally stored in a non-volatile memory and is valuable to the operation of a physical enclosure. Therefore, since bus numbering information represents information critical to the operation of a particular apparatus, AAPA in view of Mizukami teach each and every limitation of the claimed invention.);

- the third physical enclosure comprising (AAPA; Fig. 2, "Tower B" 130; page 7, ll. 1-9):
  - at least one bridge coupled to the at least one bridge in the second physical enclosure (AAPA; Fig. 2, "PHB" 136; page 7, ll. 1-9);
  - at least one numbered bus coupled to the at least one bridge in the third physical enclosure (AAPA; page 7, ll. 1-9);
  - a non-volatile memory (AAPA; Fig. 2, "NVRAM" 132; page 7, ll. 1-9) that contains:
    - bus numbering information for numbered buses in the third physical enclosure (AAPA; Fig. 1, "First Bus Num" and "Num Buses"; page 5, ll. 7-8); and
    - bus numbering information for numbered buses in the second physical enclosure (AAPA; Fig. 1-5, items 122, 132, 142, or 152; page 5, ll. 3-18; AAPA discloses each Tower [items 120, 130, 140 and 150] contain a non-

volatile RAM that stores bus numbering information about itself. AAPA does not however disclose a non-volatile RAM storing bus numbering information of a second physical enclosure. The invention of Mizukami relates to providing a copy of a node's (physical enclosure) configuration data in each of its adjacent neighbors (abstract). Mizukami goes on to teach configuration data (also known as node information) is information that is critical to the operation of a node ([0006; 0030-0033; 0065]). Each node contains an information memory unit for storing configuration data ([0018]) and a backup node information memory for storing an adjacent node's configuration data ([0018-19]). Broadly speaking, the configuration data represents any information that is vital to the operation of a node. In regards to AAPA, configuration data represents any information that Towers A-D require to operate properly. According to AAPA [page 1, ll. 21-22 and page 5, ll. 3-19] bus numbering information is critical configuration data that is normally stored in a non-volatile memory and is valuable to the operation of a physical enclosure. Therefore, since bus numbering information represents information critical to the operation of a particular apparatus, AAPA in view of Mizukami teach each and every limitation of the claimed invention.);

- a bus number manager (AAPA; Fig. 2, "Bus # Manager" 119; page 6, ll. 7-9) residing in the memory of the first physical enclosure (AAPA; Fig. 2, "Memory" 119; col. 6, ll. 3-12) and executed by the at least one processor in the first physical enclosure (AAPA; page 6, ll. 3-12), the bus number manager

detecting a change in configuration of the computer system (AAPA; Fig. 4; page 8, line, 8 – page, 10, line 2) and reading the bus numbering information from the non-volatile memory in the second and third physical enclosures to determine an appropriate bus number for at least one bus in the second and third physical enclosures (Mizukami teaches a recovery process involving determining if configuration data can be returned from a local non-volatile memory [0094]. Should the physical enclosure not return the requested configuration data, the invention of Mizukami teaches retrieving a copy of the configuration data from adjacent physical enclosures [0095-0099].).

For claim 8 AAPA in view of Mizukami teaches:

The computer system of claim 7 wherein the bus numbering information comprises a beginning bus number and a number of buses (AAPA; Fig. 1, "First Bus Num" and "Num Buses"; page 5, ll. 7-8).

For claim 9 AAPA in view of Mizukami teaches:

A computer-implemented method for storing bus-numbering information in a non-volatile memory, the method comprising the steps of:

- assigning unique bus numbers to buses in a first physical enclosure (AAPA; page 8, ll. 8-18);
- assigning unique bus numbers to buses in a second physical enclosure (AAPA; page 8, ll. 8-18);

- and storing the bus numbers for the buses in the first (AAPA; Fig. 1, "First Bus Num" and "Num Buses"; page 5, ll. 7-8) and second physical enclosures in the non-volatile memory (AAPA; Fig. 1-5, items 122, 132, 142, or 152; page 5, ll. 3-18; AAPA discloses each Tower [items 120, 130, 140 and 150] contain a non-volatile RAM that stores bus numbering information about itself. AAPA does not however disclose a non-volatile RAM storing bus numbering information of a second physical enclosure. The invention of Mizukami relates to providing a copy of a node's (physical enclosure) configuration data in each of its adjacent neighbors (abstract). Mizukami goes on to teach configuration data (also known as node information) is information that is critical to the operation of a node ([0006; 0030-0033; 0065]). Each node contains an information memory unit for storing configuration data ([0018]) and a backup node information memory for storing an adjacent node's configuration data ([0018-19]). Broadly speaking, the configuration data represents any information that is vital to the operation of a node. In regards to AAPA, configuration data represents any information that Towers A-D require to operate properly. According to AAPA [page 1, ll. 21-22 and page 5, ll. 3-19] bus numbering information is critical configuration data that is normally stored in a non-volatile memory and is valuable to the operation of a physical enclosure. Therefore, since bus numbering information represents information critical to the operation of a particular apparatus, AAPA in view of Mizukami teach each and every limitation of the claimed invention.).

For claim 10:

The method of claim 9 wherein the non-volatile memory resides in the first physical enclosure (AAPA; Fig. 2, "NVRAM" 122; page 5, line 5; col. 6, ll. 15-16; In conjunction with the incorporation of Mizukami the non-volatile memory would be provided with a backup copy of adjacent Towers' configuration data and therefore their bus numbering information. Furthermore both the first and second enclosures would contain non-volatile memories holding bus-numbering information for both itself and its neighbor enclosures).

For claim 11 AAPA in view of Mizukami teaches:

The method of claim 9 wherein the bus numbering information comprises a beginning bus number and a number of buses (AAPA; Fig. 1, "First Bus Num" and "Num Buses"; page 5, ll. 7-8).

For claim 12 AAPA in view of Mizukami teaches:

A computer-implemented method for numbering a plurality of buses in a computer system that includes a plurality of physical enclosures, the method comprising the steps of:

- storing in a non-volatile memory (AAPA; Fig. 1-5, items 122, 132, 142, or 152; page 5, ll. 3-18) bus numbering information for at least one bus in a first physical enclosure (AAPA; Fig. 1, "CEC S/N", "CEC Type", "First Bus Num" and "Num Buses"; page 5, ll. 3-19);
- storing in the non-volatile memory bus numbering information for at least one bus in a second physical enclosure (AAPA; Fig. 1-5, items 122, 132, 142, or 152; page 5, ll. 3-18; AAPA discloses each Tower [items 120, 130, 140 and 150] contain a non-volatile RAM

that stores bus numbering information about itself. AAPA does not however disclose a non-volatile RAM storing bus numbering information of a second physical enclosure. The invention of Mizukami relates to providing a copy of a node's (physical enclosure) configuration data in each of its adjacent neighbors (abstract). Mizukami goes on to teach configuration data (also known as node information) is information that is critical to the operation of a node ([0006; 0030-0033; 0065]). Each node contains an information memory unit for storing configuration data ([0018]) and a backup node information memory for storing an adjacent node's configuration data ([0018-19]). Broadly speaking, the configuration data represents any information that is vital to the operation of a node. In regards to AAPA, configuration data represents any information that Towers A-D require to operate properly. According to AAPA [page 1, ll. 21-22 and page 5, ll. 3-19] bus numbering information is critical configuration data that is normally stored in a non-volatile memory and is valuable to the operation of a physical enclosure. Therefore, since bus numbering information represents information critical to the operation of a particular apparatus, AAPA in view of Mizukami teach each and every limitation of the claimed invention.);

- detecting a change in the computer system configuration (AAPA; Fig. 4; page 8, line, 8 – page, 10, line 2); and
- reading the bus numbering information from the non-volatile memory for the first and second physical enclosures to determine an appropriate bus number for at least one bus in the first and second physical enclosures (Mizukami teaches a recovery process involving determining if configuration data can be returned from a local non-volatile memory

[0094]. Should the physical enclosure not return the requested configuration data, the invention of Mizukami teaches retrieving a copy of the configuration data from adjacent physical enclosures [0095-0099].).

For claim 13 AAPA in view of Mizukami teaches:

The method of claim 12 wherein the bus numbering information comprises a beginning bus number and a number of buses (AAPA; Fig. 1, "First Bus Num" and "Num Buses"; page 5, ll. 7-8).

For claim 14:

A computer-implemented method for assigning and maintaining persistent numbers to a plurality of buses in a computer system that includes a plurality of physical enclosures, the method comprising the steps of:

- assigning unique bus numbers to buses in a first physical enclosure (AAPA; page 8, ll. 8-18);
- assigning unique bus numbers to buses in a second physical enclosure coupled to the first physical enclosure (AAPA; page 8, ll. 8-18);
- storing bus numbering information corresponding to the bus numbers for the buses in the first and second physical enclosures in a first non-volatile memory in the first physical enclosure (AAPA; page 5, ll. 3-19; and in conjunction with the incorporation of

Mizukami the non-volatile memory would be provided with a backup copy of adjacent Towers' non-volatile memory and therefore their bus numbering information);

- storing bus numbering information corresponding to the bus numbers for the buses in the first (AAPA; Fig. 1, "First Bus Num" and "Num Buses"; page 5, ll. 7-8) and second physical enclosures in a second non-volatile memory in the second physical enclosure (AAPA; Fig. 1-5, items 122, 132, 142, or 152; page 5, ll. 3-18; AAPA discloses each Tower [items 120, 130, 140 and 150] contain a non-volatile RAM that stores bus numbering information about itself. AAPA does not however disclose a non-volatile RAM storing bus numbering information of a second physical enclosure. The invention of Mizukami relates to providing a copy of a node's (physical enclosure) configuration data in each of its adjacent neighbors (abstract). Mizukami goes on to teach configuration data (also known as node information) is information that is critical to the operation of a node ([0006; 0030-0033; 0065]). Each node contains an information memory unit for storing configuration data ([0018]) and a backup node information memory for storing an adjacent node's configuration data ([0018-19]). Broadly speaking, the configuration data represents any information that is vital to the operation of a node. In regards to AAPA, configuration data represents any information that Towers A-D require to operate properly. According to AAPA [page 1, ll. 21-22 and page 5, ll. 3-19] bus numbering information is critical configuration data that is normally stored in a non-volatile memory and is valuable to the operation of a physical enclosure. Therefore, since bus numbering information represents information critical to the operation of a

particular apparatus, AAPA in view of Mizukami teach each and every limitation of the claimed invention.);

- detecting a change in the computer system configuration (AAPA; Fig. 4; page 8, line, 8 – page, 10, line 2);
- reading the bus numbering information from the first and second non-volatile memories to determine an appropriate bus number for the buses in the first physical enclosure; and
- reading the bus numbering information from the first and second non-volatile memories to determine an appropriate bus number for the buses in the second physical enclosure (Mizukami teaches a recovery process involving determining if configuration data can be returned from a local non-volatile memory [0094]. Should the physical enclosure not return the requested configuration data, the invention of Mizukami teaches retrieving a copy of the configuration data from adjacent physical enclosures [0095-0099].).

For claim 15 AAPA in view of Mizukami teaches:

The method of claim 14 wherein the bus numbering information comprises a beginning bus number and a number of buses (AAPA; Fig. 1, "First Bus Num" and "Num Buses"; page 5, ll. 7-8).

For claim 16:

A program product comprising (AAPA; page 6, ll. 3-12):

- a bus number manager (AAPA; Fig. 2, "Bus # Manager" 119; page 6, ll. 7-9) that detects a change in configuration of a computer system (AAPA; Fig. 4; page 8, line, 8 – page, 10, line 2) that includes a plurality of physical enclosures (AAPA; Fig. 1, "Towers A-D" 120, 130, 140 and 150), the bus number manager reading bus numbering information from a non-volatile memory in a first physical enclosure to determine an appropriate bus number for at least one bus in the first physical enclosure and at least one bus in a second physical enclosure (Mizukami teaches a recovery process involving determining if configuration data can be returned from a local non-volatile memory [0094]. Should the physical enclosure not return the requested configuration data, the invention of Mizukami teaches retrieving a copy of the configuration data from adjacent physical enclosures [0095-0099].); and
- recordable signal bearing media bearing the bus number manager (AAPA; Fig. 2, "Memory" 118; page 6, ll. 3-12).

For claim 19 AAPA in view of Mizukami teaches:

The program product of claim 16 wherein the bus numbering information comprises a beginning bus number and a number of buses (AAPA; Fig. 1, "First Bus Num" and "Num Buses"; page 5, ll. 7-8).

For claim 20 AAPA in view of Mizukami teaches:

The program product of claim 16 wherein the non-volatile memory comprises at least on identifier that is read by the bus manager to determine if contents of the non-volatile memory are valid (AAPA; Fig. 1, "CEC S/N" and "CEC Type"; page 9, ll. 2-5).

(10) Response to Argument

In response to applicant's arguments (page 6, ll. 9-10), pertaining to claims 1-3 and 7-11, that "Mizukami does not teach or suggest anything about storing bus numbering information in non-volatile memory in a second apparatus" the Examiner respectfully disagrees. Claims 1-3 and 7-11 were rejected under 35 U.S.C. §103(a) as being unpatentable over AAPA in view of Mizukami. As previously stated above, AAPA teaches a non-volatile memory in each physical enclosure stores bus numbering information for that particular tower (page 5, ll. 3-19). AAPA is silent however on storing a copy of said bus numbering information in a non-volatile memory in a second physical enclosure. Mizukami teaches storing a copy of a node's (physical enclosure's) configuration data in each of its adjacent nodes (physical enclosure). Mizukami goes on to teach configuration data (also known as node information) is information that is critical to the operation of a node ([0006; 0030-0033; 0065]). Broadly speaking, the configuration data represents any information that is vital to the operation of a node. AAPA [page 1, ll. 21-22 and page 5, ll. 3-19] teaches bus numbering information is critical configuration data that is normally stored in a non-volatile memory and is valuable to the operation of a physical enclosure. Equating bus numbering information to critical configuration data is further evidenced by Berglund et al. [col. 8, ll. 41-45; see also col. 1, ll. 15-37; col. 7, ll. 41-58] who discloses the

need to store information, like bus numbering information, essential to the operation of a physical enclosure. "Not only the specific teachings of a reference but also reasonable inferences which the artisan would have logically drawn therefrom may be properly evaluated in formulating a rejection." *In re Preda,* 401 F.2d 825, 159 USPQ 342 (CCPA 1968) and *In re Shepard* 319 F.2d 194, 138 USPQ 148 (CCPA 1963). The Examiner respectfully submits one skilled in the art would have been motivated to store bus numbering information into adjacent physical enclosures, as per the teachings of Mizukami, because such bus numbering information represents enclosure critical information which Mizukami teaches storing in adjacent physical enclosures reduces the possibility that such critical information is lost in a failure event. By implementing the teachings of Mizukami into the computer system of AAPA the Examiner has thus shown "storing bus numbering information in non-volatile memory in a second apparatus" as required by claims 1-3 and 7-11. As such, the rejections of claims 1-3 and 7-11 are maintained for the reasons listed above.

In response to applicant's (page 8, ll. 14-18), pertaining to claims 1-3 and 7-11, that "one of ordinary skill in the art would not be motivated to combine the AAPA with Mizukami in the manner indicated by the Examiner" the Examiner respectfully disagrees. As previously stated above, AAPA teaches a non-volatile memory in each physical enclosure stores bus numbering information for that particular tower (page 5, ll. 3-19). AAPA is silent however on storing a copy of said bus numbering information in a non-volatile memory in a second physical enclosure. Mizukami teaches storing a copy of a node's (physical enclosure's) configuration data in each of its adjacent nodes (physical enclosure). Mizukami goes on to teach configuration

data (also known as node information) is information that is critical to the operation of a node ([0006; 0030-0033; 0065]). Broadly speaking, the configuration data represents any information that is vital to the operation of a node. According to AAPA [page 1, ll. 21-22 and page 5, ll. 3-19] bus numbering information is critical configuration data that is normally stored in a non-volatile memory and is valuable to the operation of a physical enclosure. Equating bus numbering information to critical configuration data is further evidenced by Berglund et al. [col. 8, ll. 41-45; see also col. 1, ll. 15-37; col. 7, ll. 41-58] who discloses the need to store information, like bus numbering information, essential to the operation of a physical enclosure. By including a copy of a physical enclosure's configuration data (i.e. bus numbering information that represents information vital to the operation of a physical enclosure) the possibility that configuration data (bus numbering information) is lost can be reduced even if a failure occurs in a particular device (Mizukami; [0017; 0106]). The loss of configuration data in a node device like that of AAPA or Mizukami is severely detrimental to the system because it causes a disruption of service to the remainder of the system, thus reducing overall system performance. Therefore one of ordinary skill in the art would clearly be motivated to have a computer system, storing bus numbering information in a neighboring enclosure, where the possibility of failure is reduced thus resulting in greater system performance.

In response to applicant's (page 10, ll. 6-8), pertaining to claims 4-6, 12-16, 19 and 20, that "the cited art does not teach or suggest a bus number manager that detects a change in configuration of the computer system and reads the bus numbering information from the non-volatile memory" the Examiner respectfully disagrees. Regarding a "bus number manager"

AAPA discloses (page 9, ll. 14-16) “it is determined that the data (bus numbering information) read from the tower C NVRAM 142 is invalid (step 430=NO) because the CEC serial number and the CEC type do not match the values stored in the CEC NVRAM 112.” Mizukami teaches ([0095]) that in the event that data cannot be collected from a memory (i.e. the data is invalid) “the processing routine advances to a recovery process for collecting the node information from the backup nodes adjacent to such a node (steps S15 to S18).” Therefore the combination of AAPA in view of Mizukami clearly demonstrates to those skilled in the relevant art that in the event bus numbering information (collected by a bus number manager [AAPA; Fig. 2, 119; page 6, ll. 7-9) is determined to be invalid (AAPA; page 9, ll. 14-16), a copy of the previously valid bus numbering information should be retrieved from an adjacent physical enclosure (Mizukami; [0095]). As such the rejections of claims 4-6, 12-16, 19 and 20 are maintained for the reasons listed above.

(11) Related Proceeding(s) Appendix

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner’s answer.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

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Conferees:

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